REMARKS

Claims 1-14 are pending.

The specification has been amended to correct for a typographical error. No new matter has been entered.

Claims 1-14 were rejected under 35 U.S.C. §102(b) as being anticipated by Harris (US 5,946,373). The applicant respectfully traverses this rejection for the following reason(s).

Note that in order for an anticipation rejection to be proper, the anticipating reference must disclose exactly what is claimed. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Note here that the Examiner has not relied on "inherency," accordingly, each and every element must be expressly described in Harris.

The present invention relates to a network management system for optimizing a database which stores alarm information generated from a plurality of network elements in order to manage those network elements.

In particular, when an alarm is received it is first determined whether the alarm is a logical

alarm or based on physical information. Then the network element generating the alarm is determined and a database is maintained to record the occurrence if it is a logical alarm as opposed to physical information. Each time a particular network element generates an already recorded alarm occurrence, a counter is increased with the increased count being recorded instead of recording the alarm event again.

The specification defines a logical alarm as one of, for example, a loss of link (LOL) or a poor quality of signal (QOS), and defines physical information (error) as one of, for example, loss of signal (LOS), alarm indication signal (AIS), loss of frame (LOF), or loss of pointer (LOP).

Harris' invention also relates to a network management system for optimizing a database which stores alarm information generated from a plurality of network elements in order to manage those network elements.

There does not appear to be any disclosed determination of whether or not the alarm information corresponds to a logical alarm as opposed to physical information.

Note in col. 1, lines 61-65, Harris mentions "when a failure occurs on a circuit, the equipment closest to the failure detects the fault ("loss of signal", for example), reports the fault, and propagates an alarm indicator signal in the "downstream" direction on the affected circuit." Accordingly, at least one fault in Harris is defined as a 'loss of signal," which has been defined by the present invention as a physical error instead of a logical error.

In col. 4, lines 11-14, Harris discloses that only certain alarm messages are extracted and analyzed, *i.e.*, "This invention contains an interface, shown in FIG. 2A, to the message reception

process to extract only certain selected fault alarm messages as indicated in step 201. That is, those fault alarms indicating a circuit or trunk traffic outage, plus the messages that indicate that such a fault condition has now "cleared".

Accordingly, there is no differentiation made in Harris between a logic error and a physical error.

That is, Harris only checks for a circuit or trunk outage. Harris does not look for the cause of the outage, such whether it was due to a loss of link (LOL) or a loss of signal (LOS).

Therefore, there is clearly no method of *determining whether or not said alarm information corresponds to a logical alarm* (claim 1), nor of *determining whether said alarm information is due to a logical error or a physical error in the network element generating the received alarm information* (claim 8).

Claim 1 and claim 8 both call for *searching a database to determine whether said database already has said alarm information stored therein, according to the location of the network element generating the alarm information*.

Harris does not disclose this feature. The Examiner has referred us to Harris' col. 8, lines 5-15:

> "This circuit alarm count serves two purposes: first, if an explicit fault alarm is reported for that trunk, then the presence of alarms on the contained circuits provides a confirmation that the trunk fault is actually causing a traffic outage; and second, a fault on a trunk can be inferred if a majority of the circuits on that trunk report alarms.
>
> For efficiency in later processing, some additional processing (245) can be performed as the circuit alarm is counted on each of the upstream trunks. If the circuit alarm is the first alarm to be counted on a given trunk, or if the time-stamp of the alarm falls outside the

> window for presuming correlation with any previous alarms, then the time-stamp of that alarm and the set of all upstream trunks are stored in the data structure representing the trunk. Otherwise, if the circuit alarm is not the first one to be counted on a given trunk and the time-stamp of that alarm is within the window necessary for presuming correlation with the previous alarms, then the set of upstream trunks for the new alarm is intersected with that of the previous alarm or alarms (that is, all trunks common to both sets are extracted), and the new list is stored in the trunk data structure. This intersection set will be referred to as the "common path set" for the circuits on the trunk: at any given time, this is the set of trunks that contain all of the same circuits as those counted on the given trunk. (This set always contains the given trunk itself, and it may contain only that trunk if the circuits do not have any other trunks in common.) The significance of this common path set is that the circuit alarms counted on the given trunk could actually be caused by an outage on any of these trunks."

It is clear from the above that Harris is concerned with the "trunks" of the network, wherein such trunks consists of a series of transmission equipment connections through the network. Accordingly, the location of the network element, i.e., transmission equipment, causing the fault is not known and such location is not the basis for a database search.

Both claim 1 and claim 8 call for *increasing a count value representing a number of times in which the same alarm information has been generated, without redundantly storing said alarm information into said database, when it is determined that said alarm information is already stored in said database.*

In Harris' count process, each upstream trunk is processed in turn. On each trunk, a circuit alarm counter is incremented. The directionality of the circuit alarm with respect to the trunk is significant and separate counters are maintained for circuit alarms in each direction.

If the circuit alarm is the first alarm to be counted on a given trunk, or if the time-stamp of

the alarm falls outside the window for presuming correlation with any previous alarms, then the time-stamp of that alarm and the set of all upstream trunks are stored in the data structure representing the trunk. Otherwise, if the circuit alarm is not the first one to be counted on a given trunk and the time-stamp of that alarm is within the window necessary for presuming correlation with the previous alarms, then the set of upstream trunks for the new alarm is intersected with that of the previous alarm or alarms (that is, all trunks common to both sets are extracted), and the new list is stored in the trunk data structure. This intersection set will be referred to as the "common path set" for the circuits on the trunk: at any given time, this is the set of trunks that contain all of the same circuits as those counted on the given trunk. (This set always contains the given trunk itself, and it may contain only that trunk if the circuits do not have any other trunks in common.) The significance of this common path set is that the circuit alarms counted on the given trunk could actually be caused by an outage **on any of these trunks**.

Every time that a circuit alarm counter is incremented on a given trunk, then that trunk is evaluated to determine if a fault can be **inferred** from the circuit alarms or if a reported trunk fault can be confirmed to be affecting traffic on the contained circuits.

Accordingly, there is no determination as to whether the *same alarm* information has been generated. Harris clearly describes determinating whether "a fault can be inferred". The counter is incremented to record **the number of systems associated** with an outage, not to identify when *same alarm information* occurs more than once.

"There must be no difference between the claimed invention and the reference disclosure,

as viewed by a person of ordinary skill in the field of the invention." *Scripps clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001, 18 USPQ2d 1896 (Fed. Cir. 1991).

Accordingly, the rejection of claims 1-14 is deemed to be in error and should be withdrawn.

The examiner is respectfully requested to reconsider the application, withdraw the objections and/or rejections and pass the application to issue in view of the above amendments and/or remarks.

A fee of $120.00 is incurred by the submission of one month extension of time. Should the other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,

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